

APPARATUS AND METHOD FOR BOUNDARY DETECTION IN VECTOR  
SEQUENCES AND EDGE DETECTION IN COLOR IMAGE SIGNALS

## ABSTRACT OF THE DISCLOSURE

5        There is disclosed an apparatus and method for boundary  
detection in vector sequences and edge detection in color image  
signals. A boundary detection controller analyzes a vector sequence  
that represents a signal. A frequency dependent function is used to  
calculate a modified first order difference (MFD) of the vector  
10       sequence, first as a vector quantity, then as a scalar quantity. A  
local maximum of the MFD scalar quantity that is greater than a  
predetermined threshold value identifies a boundary location. The  
boundary detection controller also analyzes luminance and  
chrominance portions of a color image signal to locate luminance  
15       edges and chrominance edges in a color image.